

ABSTRACT

Irrigation and drainage systems are disclosed, including a saturated zone and at least one pipe in communication with the saturated zone. The pipe(s) can be configured to comprise a tubarc porous microstructure for conducting water from the saturated zone to an unsaturated zone in order to drain the water from the saturated zone. The water can be delivered from the saturated zone to the unsaturated zone through the tubarc porous microstructure, thereby permitting the water to be harnessed for irrigation or drainage through the hydrodynamic movement of the water from one zone of saturation or unsaturation to another.

15